# Case Management

Support Emails in English, French or German languages.

Analyze Email automatically and categorize the Email based on the product and customer intent.

Route the analyzed Email to the best skilled and available agent

Steps

1. Create a solution “Case Management”
2. Create a Automatically create Case records from Email ruleset
3. Create instant flow “TranslateCasesToTargetLanguage”
4. Automatically create Case records from Email
5. AI Builder category classification custom model
6. Update the Automatically create Case records from Email ruleset to use the trained AI Builder Custom Classification models
7. Configure Unified Routing based on Category Tags to Agents

## Create a solution “Case Management”

To create a solution:

1. Sign in to Power Apps (<https://make.powerapps.com/>) and select Solutions from the left navigation.
2. Select New solution and then complete the required columns for the solution.

|  |  |  |
| --- | --- | --- |
| Field | Value | Description |
| Display Name | Case Management | The name shown in the list of solutions. You can change this later. |
| Name | CaseManagement | The unique name of the solution. This is generated using the value you enter in the Display Name column. You can edit this before you save the solution, but after you save the solution, you can’t change it. |
| Publisher | <Your Publisher> | You can select the default publisher or create a new publisher. We recommend that you create a publisher for your organization to use consistently across your environments where you will use the solution. |
| Version | 0.0.0.1 | Enter a number for the version of your solution. This is only important if you export your solution. The version number will be included in the file name when you export the solution. |

1. Select Create.
2. Select “Add existing” – “Table”
3. Search for “Case” and select the table
4. Select “Next”
5. Select “Select objects” as we limit the customization and dependency to a minimum
6. In Columns search for “Description” and select the column
7. In Forms search for “Case for Interactive experience” and select the column
8. Select “Add”
9. Now we’ve to add additional columns to manage Category Tags, Language, Language Score and Translated text for Description and Category Tags as following.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Display Name | Category Tags | Category Tags Translated | Description Translated | Language | Language Score |
| Data type | Single line of text | Single line of text | Multiple lines of text | Single line of text | Number |
| Format | Plain text | Plain text |  | Plain text | Float |
| Schema name | categorytags | categorytagstranslated | descriptiontranslated | language | languagescore |
| Minimum value |  |  |  |  | 0 |
| Maximum character count | 4’000 | 4’000 | 1’048’576 | 2 | 1 |
| Decimal places |  |  |  |  | 5 |

1. Select “New column” and add the five new columns base on the table above to the Case table. See results

Graphical user interface, application

Description automatically generated

1. Select “Forms” in the objects navigation
2. Select “Case for Interactive experiences” and choose edit
3. In “Details” tab add an new section called “Case Analytics” and add the five new created columns and Description to the section. See result

Graphical user interface, application

Description automatically generated

1. Select “Publish”
2. Now we need to add a new view to review the Case Analytics. Select “Views” in the objects navigation
3. Select “New view” and name it “Active Case Analytics”

Graphical user interface, application, Teams

Description automatically generated

1. Select “Create”
2. Add the five columns and Description to the new view. Change Sort and Filter as needed. See result

Graphical user interface, text, application, email

Description automatically generated

1. Select “Publish”
2. Go back and select in the Objects navigation “All”. Select “Publish all customizations”
3. Now we can check if the customization is correct adapted. Open “Customer Service Hub”, select “Cases”.
4. Change view to “Active Case Analytics”

Graphical user interface, text, application

Description automatically generated

1. Select and open a case

Graphical user interface, application

Description automatically generated

Now we set the foundation to analysis cases.

### Reference

* [Solutions in Power Apps - Power Apps | Microsoft Learn](https://learn.microsoft.com/en-us/power-apps/maker/data-platform/solutions-overview)

## Automatically create Case records from Email

You can automatically create or update system or custom records from incoming activities, such as emails, social activities, and custom activities. In this section, you'll learn about creating rules for automatically creating records for cases from incoming emails.

### Prerequisites

Make sure that the following prerequisites are met:

* Permissions, roles, and the Power Automate license to create automatic record creation rules.
* Information on the queues for which you want to create the rules. In our case we use [support@ursruegg.com](mailto:support@ursruegg.com)

### Configure rules for creating or updating records automatically

You can configure a rule that when active will be run for incoming emails. By using the feature to create rules, you can define the conditions for when a rule can be run.

You can configure the rules in the Customer Service admin center or Customer Service Hub app.

1. Open Customer Service Hub app and select Service Management.
2. Select Automatic record creation and update rules in Case Settings. The Record Creation and Update Rules page is displayed.
3. Select New. The New Record Creation and Update Rule page is displayed.
4. On the Basic tab, in Step one details, enter the following details:
   1. Rule name: Enter a name for the rule.
   2. Queue to monitor: Select a queue on which the rule will be activated. For email activity, you must select a queue to be able to activate the rule.
   3. Activity type to monitor: Select Email in the list.

See result

Graphical user interface, application

Description automatically generated

1. Select Save. The Step two: conditions to evaluate and actions to take area is enabled.
2. In Step two: conditions to evaluate and actions to take, select New. The Condition builder page is displayed.

Graphical user interface, text, application, email, Teams

Description automatically generated

1. Perform the following steps:
   1. In Condition > Condition name, enter “Standard create case from email rule” name.
   2. In Condition that must pass to continue (pass if blank), select Add.
   3. Use the following options to define the criteria for the rule to be evaluated:
      1. Add row
      2. Add group
      3. Add related entity
2. In Actions to take > Record to create, make sure the value is “Case”. A case will be created if the conditions specified are met for the email activity.
3. In Configure in Microsoft Power Automate, select Save and open in Power Automate. The Power Automate application opens in a new tab where you can configure criteria that must be evaluated for the email activity.
4. Now we can extend the standard flow to analyze the content. We need to detect the Language of the Email content.
5. Add the following additional variables steps

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Initialize variable AI Builder Language | Initialize variable AI Builder Language Confidence Score | Initialize variable AI Builder Category Tag |
| Name | ai\_builder\_language | ai\_builder\_language\_confidence\_score | ai\_builder\_language\_category\_tag |
| Type | String | String | String |
| Value | en | 0 |  |

See results

Graphical user interface, application, Teams

Description automatically generated

1. Add a Flow Scope step and name it “Analyze Email using AI Builder models”
2. Add a “Html to text” to convert the Email HTML content to plain text and name it “Convert email to plain text by inputting 'Description' dynamic content”
3. Add “Description” column to the content field

Graphical user interface, application

Description automatically generated

1. Add a Flow Scope step and name it “AI Builder Language Detection”
2. Add a AI Builder Step “Detect the language being used in text” and name it “Detect the language being used in text”
3. Add the result of the Html to text conversion to the Text of the AI Builder step
4. Add a Flow Step “Set variable” and name it “Set variable AI Builder Language”. Choose the “ai\_builder\_language” variable for Name and for Value “Language” result from the AI Builder.
5. Add a Condition step to evaluate the detected language confidence score is a valid result between 0 and 1.
6. Add in “If yes” a new Flow step Set variable and name it “Set variable AI Builder Language Confidence Score”
7. For Name choose the variable “ai\_builder\_language\_confidence\_score” and for Value add the AI Builder Confidence Score result. See result

Graphical user interface, application, Teams

Description automatically generated

1. Add a Flow Scope step and name it “AI Builder Case Category Classification Detection”. Leave it empty as a placeholder. We will come back to extend this part after we’ve created and trained the AI Builder category classification models.
2. Select the Dataverse Step “Create a record (don't rename this step)” and update the Description equal to result of the Html to text conversion, Language equal to ai\_builder\_language variable and Language Score equal to ai\_builder\_language\_confidence\_score. See result

Graphical user interface, text, application, email

Description automatically generated

1. Select “Save” to update the flow with all your changes.
2. Go back to the “Record Creation and Update Rule Item”
3. Select Save & Close. The condition builder is closed.
4. In Step three: additional actions to take after matching with a condition, select an option based on your requirement for Automatically reply to email.
5. If you select Yes, select an email template in the Select email template list box.

Now we’ve created the rule set and are ready to test it. Send some example mail to the Email address and analyze the result in “Customer Service Hub” – “Cases” – “Active Case Analytics”.

### Reference

* [Automatically create or update records in Dynamics 365 Customer Service | Microsoft Learn](https://learn.microsoft.com/en-us/dynamics365/customer-service/automatically-create-update-records?tabs=customerservicehub)
* [Get started with Power Automate (contains video) - Power Automate | Microsoft Learn](https://learn.microsoft.com/en-us/power-automate/getting-started)

## Create instant flow to translate sample data into target language

As we want to support three languages, English, French and German to analyze the Email content, we need to have sample data for each supported language. AI Builder has a Text translation prebuilt model and we can use it to translate the Case Description into a selected target language.

|  |  |
| --- | --- |
| Column | Description |
| Description | Holds the plan text email content. |
| Description Translated | Holds the translated to target language “Description” to be used in the AI Builder Category Classification model |
| Category Tags | Holds the analyzed category tags of the Description text.  In a first iteration you will add the Category Tags manually. After you’ve trained models, we’ll include the trained model into the “Automatically create Case records from Email” flow to analyze the Email content and get the Category Tags based on the trained model. |
| Category Tags Translated | Holds the Category Tags to be used in the AI Builder Category Classification model |

Consider how to deal with single or multi-language model support

* For a multi-language scenario I recommend to keep the Category Tags in one common language, as we will use the Category Tags later to route the Case using Routing Rules to the skilled Agent. In our case we used English as the common language for tagging the categories.
* For a single-language scenario, I recommend to translate everything into one common language like English. And just use one common language model to analyze and route the cases.

### Prerequisites

Make sure that the following prerequisites are met:

* Permissions, roles, and the Power Automate license to create automatic record creation rules.
* Case entity prepared as described in “Create a solution Case Management” before

### Create Translate Cases to Target Language instant flow

The helper flow should be triggered manually passing a target language code value to translate the Description into the target language and persist it into Description Translated for later used to train the AI Builder model for different language. The building blocks are:

1. Define the used variables
2. Check user input
3. Get list of cases
4. Translate content to target language

Graphical user interface, application, Teams

Description automatically generated

Now let’s create the helper flow

1. Sign in to Power Apps (https://make.powerapps.com/), and then select Flows > Cloud flows.
2. Select “New flow” and select “Instant cloud flow”
3. Add the following additional variables steps

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Step | Initialize variable Target Language | Initialize variable Translated Description | Initialize variable Translated Category Tag | Initialize variable AI Builder Language | Initialize variable AI Builder Language Confidence Score | Initialize variable Case Description Translated |
| Name | target\_language | translated\_description | translated\_category\_tag | ai\_builder\_language | ai\_builder\_language\_confidence\_score | case\_description\_translated |
| Type | String | String | String | String | Float | String |
| Value | en | none | none | en | 0 | none |

See results

Graphical user interface, application, Teams

Description automatically generated

1. Add a Flow Scope step and name it “Check user input”
2. Add a Condition step to check if user input is a valid supported target language code.
3. Add in “If yes” a new Flow step Set variable and name it “Set variable Target Language to User Input”. Set Name equal target\_language and Value equal User Input target\_language.

Graphical user interface, application

Description automatically generated

1. Add a Flow Scope step and name it “Get list of cases”
2. Add a Dataverse List rows action and name it “List cases”
3. Select Table name “Cases”
4. Add Fetch Xml Query to get only active cases with category tags. See below sample

<fetch version="1.0" output-format="xml-platform" mapping="logical" distinct="false">

<entity name="incident">

<attribute name="title" />

<attribute name="incidentid" />

<attribute name="ticketnumber" />

<attribute name="casetypecode" />

<attribute name="ur\_categorytags" />

<attribute name="customerid" />

<attribute name="description" />

<attribute name="ur\_language" />

<attribute name="ur\_languagescore" />

<attribute name="adx\_resolution" />

<attribute name="subjectid" />

<attribute name="msdyn\_incidenttype" />

<attribute name="statecode" />

<attribute name="ur\_descriptiontranslated" />

<attribute name="ur\_categorytagstranslated" />

<order attribute="title" descending="false" />

<filter type="and">

<filter type="and">

<condition attribute="statecode" operator="in">

<value>0</value>

<value>1</value>

<value>2</value>

</condition>

<condition attribute="description" operator="not-null" />

<condition attribute="ur\_categorytags" operator="not-null" />

</filter>

</filter>

</entity>

</fetch>

1. Add a Flow Scope step and name it “Translate content to target language”
2. Add a AI Builder Step “Detect the language being used in text” and name it “Detect the language being used in case description”
3. Add a Flow Step “Set variable” and name it “Set variable AI Builder Language”. Choose the “ai\_builder\_language” variable for Name and for Value “Language” result from the AI Builder.

Graphical user interface, application

Description automatically generated

1. Add a Condition step to evaluate the detected language confidence score is a valid result between 0 and 1.
2. Add in “If yes” a new Flow step Set variable and name it “Set variable AI Builder Language Confidence Score”
3. For Name choose the variable “ai\_builder\_language\_confidence\_score” and for Value add the AI Builder Confidence Score result.
4. Add in “If no” a new Flow step Set variable and name it “Set variable AI Builder Language Confidence Score”
5. For Name choose the variable “ai\_builder\_language\_confidence\_score” and for Value add 0.

Graphical user interface, application, Teams

Description automatically generated

1. Add a Condition step to evaluate the detected language is a valid result en, fr, de

Graphical user interface, application

Description automatically generated

1. Add in “If yes” a new Flow step switch to evaluate the supported target language model. Set On equal to target\_language variable
2. Add a Switch cases for English language and name it “Language equal english”
3. Set Equals to en
4. Add a AI Builder Step “Translate text into another language” and name it “Translate description to english”.
5. Set Text to Case Description and Translate to English
6. Add a Flow Step “Set variable” and name it “Set variable Translated Description for english”. Choose the “translated\_description” variable for Name and for Value “Translated text” result from the AI Builder.
7. Add a AI Builder Step “Translate text into another language” and name it “Translate category tag to english”.
8. Set Text to Case Category Tags and Translate to English
9. Add a Flow Step “Set variable” and name it “Set variable Translated Category Tag for english”. Choose the “translated\_category\_tag” variable for Name and for Value “Translated text” result from the AI Builder. See result
10. Graphical user interface, application, Teams

    Description automatically generated
11. To support other languages too, repeat the steps 21 to 29 for French and German.
12. Close the switch action
13. Add a Dataverse Step “Update a row” and name it “Update current case”
14. Set Table name equal “Cases”, Row ID equal “Case”, Category Tags Translated to translated\_category\_tag variable and Description Translated to translated\_description.
15. Graphical user interface, application, Teams

    Description automatically generated
16. Select “Save” to persist all changes you made to the flow.
17. Select “Test” to test your flow with User Input with a supported language code.

Now we’ve helper flow to simple translate the Case description into any target language. We will use this helper flow to prepare the sample data for the AI Builder models for category classifications.

## AI Builder category classification custom model

The volume of text data is increasing exponentially for organizations. Channels such as email, documents, and social media contribute increasing amounts of text data. This data carries valuable information that—when extracted and acted on—helps you provide better services to your customers.

### Prerequisites

* This model requires the training data to be available within a Dataverse table. In our case we’ll use Cases and have loaded some test data.
* Make sure your administrator has assigned you a security role with Read privilege for the table that has the training data.

### Data preparation

The training data used to train the model from the Dataverse table should conform to the following:

* Store text and tags as two columns in the same table. Each row must have data in the Text column.
* You can provide one or more tags to data in the same row in the Text column.
* If you've identified multiple tags within the text sample, provide them as delimited text in the Tags fields. We use semicolons (;) as tag separators. For example:

|  |  |
| --- | --- |
| Description | Category Tags |
| Please make the following resignation.  Contract  0DB78F  AHV numbers  756.9950.7311.96  Hansrudolf Muster  Obere Musterstrasse 18b  8000 Zurich | Pension fund; Withdrawal; |
| Hello  Unfortunately, I had an accident and have a question about it.  My vehicle AI3214. Can you clarify how high my deductible is?  Many thanks for the prompt clarification  Best regards,  Marc Brühlhard  Bahnofstrasse 13  8001 Zurich | Vehicle Insurance; Deductible; |

* Make sure to have a minimum of 10 distinct text samples for each tag to be extracted. Tags with fewer than 10 samples won't be trained.
* If Cases has been tagged in fewer than 10 rows in the data, it will be ignored. The model won't be trained to categorize data for that tag.
* For every tag that is used, provide a minimum of 10 text samples where it isn't used.

### Steps to prepare sample data

1. In our case we can send Email with sample text to [support@ursruegg.com](mailto:support@ursruegg.com) and the automatically create records rule creates for each Email a new case.
2. Prepare and send at least 10 Emails with sample data
3. Open “Customer Service Hub” and select cases.
4. Open the view “Active Case Analytics” and check if the cases with the sample data is there.
5. Select “Export to Excel” – “Open in Excel Online”
6. Update the Category Tag for each case. In our case we defined the following tags based products and customer intent
   * Pension fund; Withdrawal; Admission; Wage change;
   * Vehicle Insurance; Deductible;

Graphical user interface, application, table, Excel

Description automatically generated

1. Select “Save” and the updated cases including the category tags will be imported
2. Go back to the view “Active Case Analytics” and check if the category tags are updated

**Keep in mind**

* A table must have at least two tags, and each one must have 10 text samples.
* You can define up to 200 distinct tags. Each tag is a category that will be identified and extracted from the given text.
* Each sample of text data must have fewer than 5’000 characters.
* In our case we use the Case Description column with configured max size of 2’000 characters out-of-the-box.
* If you need to support more than 2’000 characters, you can create a new column of “Multiple line of text” – “Plain text” that support max size of 1’048’576 characters. Review the “Description Translated” column.

### Create a category classification custom model

Now that you have your training data in Microsoft Dataverse, you can create a new model and configure it.

1. Sign in to Power Apps (https://make.powerapps.com/), and then select AI Builder > Explore.
2. Select Text.

Graphical user interface, application

Description automatically generated

1. Select Category classification - Classify texts into custom categories.
2. Read the Classify texts into custom categories page, and then select Get started.
3. The Category classification tile step by step window opens.

Graphical user interface, application

Description automatically generated

1. Change the model name to “Case Category Classification English”
2. Choose “Select text”, select the table “Case”, select the column “Description Translated” where your training text is stored, and then choose Select column.

Graphical user interface, application, Teams

Description automatically generated

1. Select Next. See result

Graphical user interface, text, application, email, Teams

Description automatically generated

1. Choose Select tags, select the column “Category Tags Translated” where the tags are stored, and then choose Select column.

Graphical user interface, application, Teams

Description automatically generated

1. (If not pre-selected) Select the separator you used for your tags, in our case “Semicolon” and then select Next.

Graphical user interface, application

Description automatically generated

1. Review your text and tags to verify the data and the configuration you applied, and then select Next.

Graphical user interface, text, application

Description automatically generated

1. Select the language “English” you want to use for training, and then select Next.

Graphical user interface, application

Description automatically generated

1. To begin training your category classification model, review your configuration, and then select Train. Graphical user interface, application, Teams

   Description automatically generated
2. When it's ready, you'll be notified.

Graphical user interface, application

Description automatically generated

1. After each training, AI Builder uses the test dataset to evaluate the quality and accuracy of your AI model. A summary page for your model shows your model training results, including a Performance score.

Graphical user interface, application, Teams

Description automatically generated

1. You can also select Quick Test to assess the quality of the model. Just enter text that you want to tag.

Graphical user interface, application

Description automatically generated

1. As a result you should get category tags with a confidence score

That's it! Now you have the first trained AI model. Now we need to establish for each supported language a dedicated Category Classification model. In our case we want to support English, French and French.

### Reference

* [Overview of category classification model - AI Builder | Microsoft Learn](https://learn.microsoft.com/en-us/ai-builder/text-classification-overview)
* [Language detection prebuilt AI model - AI Builder | Microsoft Learn](https://learn.microsoft.com/en-us/ai-builder/prebuilt-language-detection)
* [Text translation prebuilt AI model - AI Builder | Microsoft Learn](https://learn.microsoft.com/en-us/ai-builder/prebuilt-text-translation)

## Update the Automatically create Case records from Email ruleset to use the trained AI Builder Custom Classification models

## Configure Unified Routing based on Category Tags to Agents

Add skills for each used Category Tag and assign skills to Agents (Users) experience.

In our case we defined the following category tags based products and customer intent

o Pension fund; Withdrawal; Admission; Wage change;

o Vehicle Insurance; Deductible;

Fahrzeugversicherung; Selbsbehalt; Unfallversicherung; Haftpflicht; Pensionskasse; Eintritt; Austritt; Anfrage; Adressänderung; Lohnänderung

#### Case Entity Extraction Model

**VehicleNumberPlate**

Fahrzeuges mit Kontrollschild {BE1234}

Selbstbehalt für das Fahrzeug {ZH32589}

Fahrzeug {AI3214}

einen Umfall mit {JU6539}

Selbstbehalt für {FR2154}

Fahrzeugversicherung {SH86445}

Fahrzeug mit Kontrollschild {SH86445}

Selbstbehalt für Kontrollschild {FR2154}

Vehicle with registration plate {BE1234}

Self-hasty for the vehicle {ZH32589}

Vehicle {AI3214} an accident with {JU6539}

Deductible for {FR2154}

Vehicle Insurance {SH86445}

Vehicle with registration plate {SH86445}

Deductible for control plate {FR2154}

Véhicule avec plaque d’immatriculation {BE1234}

Auto-précipitation pour le véhicule {ZH32589}

Véhicule {AI3214} un accident avec {JU6539}

Franchise pour {FR2154}

Assurance véhicule {SH86445}

Véhicule avec plaque d’immatriculation {SH86445}

Franchise pour plaque de contrôle {FR2154}

**CarInsurance**

What is my {deductible} for {vehicle} with registration plate

I have {caused damage} with my {vehicle} license plate

My {vehicle} AI3214. Can you clarify how high my {deductible} is?

Unfortunately, I had an {car} {accident }and have a question about it.

What is my {deductible} for {vehicle policy}

I have a question regarding my {vehicle} {insurance}

I had an {accident} with JU6539 and would like to know my car {policy} coverage

What is my {deductible} for {vehicle} with registration plate

I have {caused damage} with my {vehicle} license plate

Qu’est-ce que mon {deductible} pour {vehicle} avec plaque d’immatriculation

J’ai {causé des dommages} avec ma plaque d’immatriculation {véhicule}

Mon {véhicule} AI3214. Pouvez-vous préciser le montant de ma {franchise}?

Malheureusement, j’ai eu une {voiture} {accident} et j’ai une question à ce sujet.

Quelle est ma {franchise} pour {police véhicule}

J’ai une question concernant mon {véhicule} {assurance}

J’ai eu un {accident} avec JU6539 et j’aimerais connaître ma couverture de voiture {police}

Quelle est ma {franchise} pour {véhicule} avec plaque d’immatriculation

J’ai {causé des dommages} avec ma plaque d’immatriculation {véhicule}

**AHVNumber**

AHV numbers {756.7289.6900.16}

My AHV number is {756.9950.7311.96}

Pension fund for contact AHV numbers {756.6257.7019.21}

AHV number {756.1177.1531.19}

Insurance for {756.1177.1531.19}

My AHV number is {756.6317.9277.73}

Pension fund admission for {756.6317.9277.73}

AHV Number {756.2863.5749.59}

Insurance for {756.1558.4737.99}

AHV Nummer {756.7289.6900.16}

Meine AHV nummer ist {756.9950.7311.96}

Pensionskasse für Vertrag mit AHV nummers {756.6257.7019.21}

AHV nummer {756.1177.1531.19}

Versicherung für {756.1177.1531.19}

Die AHV ist {756.6317.9277.73}

BVG Neuzugang für {756.6317.9277.73}

AHV Nummer {756.2863.5749.59}

Versicherung für {756.1558.4737.99}

Numéros AVS {756.7289.6900.16}

Mon numéro AVS est {756.9950.7311.96}

Caisse de pension pour les numéros de contact AVS {756.6257.7019.21}

Numéro AVS {756.1177.1531.19}

Assurance pour {756.1177.1531.19}

Mon numéro AVS est {756.6317.9277.73}

Admission à la caisse de retraite pour {756.6317.9277.73}

Numéro AVS {756.2863.5749.59}

Assurance pour {756.1558.4737.99}

**PolicyIntention**

{Pension fund} {admission} for 756.6317.9277.73

{Pension fund} {withdrawal} for 756.1558.4737.99

{Pension fund} {wage change} to CHF 120’000 for 756.1558.4737.99